

AMENDMENTS TO THE SPECIFICATION:

Please cancel the originally-filed Abstract of the Disclosure, and add the accompanying new Abstract of the Disclosure which appears on a separate sheet in the Appendix.

Please delete the paragraph beginning on page , line .

Please replace the paragraph beginning at page 5, line 1, with the following rewritten paragraph:

-- layer 154 (fixed magnetized layer), an insulating layer 152, a second ferromagnetic layer 150 (free magnetized layer), a cap layer 114, and a mask 120 are formed on the substrate 100 (second step). Then, as shown in Fig. 1C [[13C]], the mask 120 is patterned to a mask 120" to have a shape coincident with that of a broken line 126. Then, etching is carried out by using an ion milling method so that the area of the second ferromagnetic layer (free magnetized layer) 150 becomes smaller than that of the first ferromagnetic layer (fixed magnetized layer) 154. Thus, an etching-scheduled shape 126 is obtained (third step). That is, the etching is carried out by using the pattern (mask 120), for the downsizing the magnetic element, and then the upside of the magnetic element is etched by using another pattern (mask 120") by the ion milling method.--

Please replace the paragraph beginning at page 34, line 18, with the following rewritten paragraph:

-- Moreover, when the lower portion structure 52b [[52a]] of the magnetic element is formed by the etching, it is possible to form the magnetic element (the upper portion structure 51b [[51a]] and the lower portion structure 52b [[52a]] of the magnetic element) through once patterning because the

sidewall 19 and the upper conductive layer 17' are used as a mask.--

Please replace the paragraph bridging pages 34 and 35, with the following rewritten paragraph:

--Further, in the magnetic memory manufacturing method of this embodiment, as well as the first embodiment, the size of the lower portion structure 52b [[52a]] of the magnetic element can be controlled to about a summation of the upper portion structure 51b [[51a]] of the magnetic element and the thickness of the sidewall 19 (protection film 18).--

Please replace the paragraph beginning at page 36, line 21, with the following rewritten paragraph:

-- Advantages described with reference to Figs. 3E and 3F can be obtained in case of the second [[first]] embodiment when a via-hole in the upper portion of the interlayer insulating layer 20 is formed by the etching and the connection with the upper wiring 21 by using the via-contact is formed in order to electrically connect the upper wiring 21 with the upper conductive layer 17'.--

Please replace the paragraph beginning at page 37, line 2, with the following rewritten paragraph:

-- Moreover, in the magnetic memory manufacturing method of this embodiment, to electrically connect the upper wiring 21 with the upper conductive layer 17', it is allowed that the interlayer insulating layer 20 is flattened by CMP and/or etching-back and the upper wiring 21 is formed on the interlayer insulating layer 20. In this case, advantages same as those

described with reference to Figs. 8A to 8C [9A to 9C] in the first embodiment can be obtained.--

Please replace the paragraph bridging pages 38 and 39, with the following rewritten paragraph:

--Next, as shown in Fig. 4B, the upper portion structure 51c of the magnetic element is formed. A photo-resist layer is patterned into the predetermined shape. Etching is carried out by an ion milling method by using the resist pattern as a mask. In this case, the etching is carried out up to the boundary between the free ferromagnetic film 16 and the insulating film 15. Subsequently, the photo-resist layer is removed. The upper conductive layer 17', the anti-ferromagnetic layer 13', the fixed ferromagnetic layer 14', and insulating layer 15' of the magnetic element are formed through the above etching. In this embodiment, the group of the upper conductive layer 17', the anti-ferromagnetic layer 13', the fixed ferromagnetic layer 14', and the insulating layer 15' is referenced to as the upper portion structure 51c of the magnetic element. The above predetermined shape is the shape of the upper portion structure 51c [[51a]] of the magnetic element.--

Please replace the paragraph beginning at page 40, line 9, with the following rewritten paragraph:

-- Next, as shown in Fig. 4E, a lower portion structure 52c of the magnetic element is formed. Etching is carried out up to the bottom of the lower conductive film 12 by using the sidewall 19 and the upper conductive layer 17' as a mask. The etching method uses ion milling. This etching is carried out up to the boundary between the lower wiring 11 and the lower conductive film 12. The free ferromagnetic layer 16' and the lower conductive layer 12' are formed through the above

etching. In this embodiment, the free ferromagnetic layer 16' and the lower conductive layer 12' are also referenced to as the lower portion structure 52c of the magnetic element. Because the etching is carried out by using the sidewall 19 and the upper conductive layer 17' as the mask, a step relating to photolithography is unnecessary. That is, although twice etchings for the upper portion structure 51c [[51a]] of the magnetic element and the lower portion structure 52c of the magnetic element are carried out to form the magnetic element, only once photolithography step is enough and it is possible to restrain increase of the number of steps.--

Please replace the paragraph beginning at page 41, line 4, with the following rewritten paragraph:

-- Next, as shown in Fig. 4F, the interlayer insulating film 20 is formed. First, the interlayer insulating film 20 is formed to cover the lower insulating layer 10, the lower portion structure 52c [[52a]] of the magnetic element, and the upper portion structure 51c [[51a]] of the magnetic element. The interlayer insulating film 20 is the same as the case of the first embodiment. Subsequently, the upside of the interlayer insulating film 20 is polished up to the upside of the upper conductive layer 17'. In this case, the etching-back method may be used instead of the CMP method. At this time, the etching gas uses CF₄. As another method, a method of carrying out the CMP method may be first used to a middle portion and then the etching-back may be used. An upper wiring 21 is formed on the interlayer insulating film 20 as a write and read wiring.--

Please replace the paragraph bridging pages 49 and 50, with the following rewritten paragraph:

-- Next, as shown in Fig. 6F, the fixed ferromagnetic layer 14', the anti-ferromagnetic layer 13', and the lower conductive layer 12' are patterned into predetermined shapes by using a photo-resist layer. Etching is carried out by using a resist pattern by the ion milling method. In this case, the etching is carried out up to the boundary between the lower wiring film 11' and the lower insulating layer 10. Subsequently, the photo-resist layer is removed. A lower conductive layer 12' and lower wiring 11 are formed in accordance with the above etching. In this embodiment, the fixed ferromagnetic layer 14', the anti-ferromagnetic layer 13', and the lower conductive layer 12' are referenced to as the lower portion structure 52e of the magnetic element. Because the etching is carried out by using the sidewall 19 and upper conductive layer 17' as a mask, a step relating to photolithography is unnecessary. That is, although twice etchings for the upper portion structure 51e [[51a]] and lower portion structure 52e [[52a]] of the magnetic element are conventionally carried out, only once photolithography step is enough in case of the present invention. Therefore, it is possible to restrain increase of the number of steps.--